Trend Study 16B-22-99

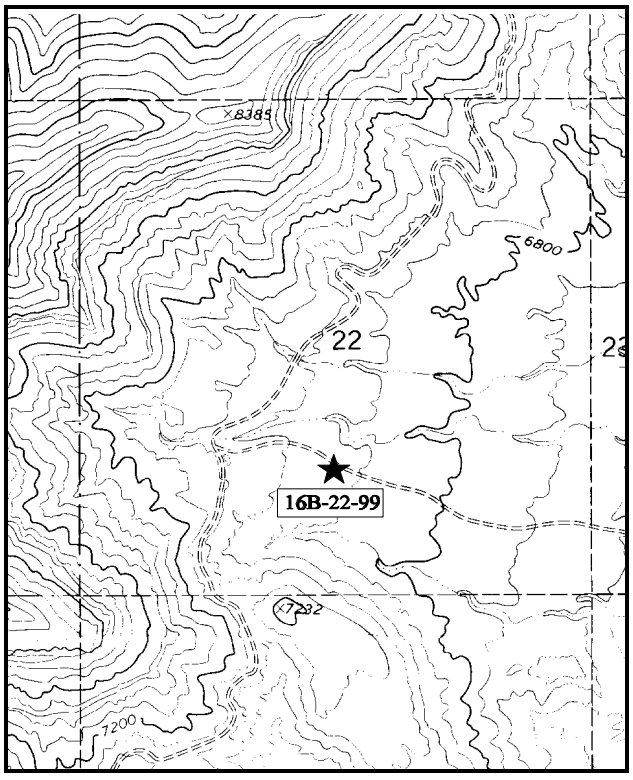
Study site name: Poison Spring Bench . Range type: Chained, Seeded, P-J .

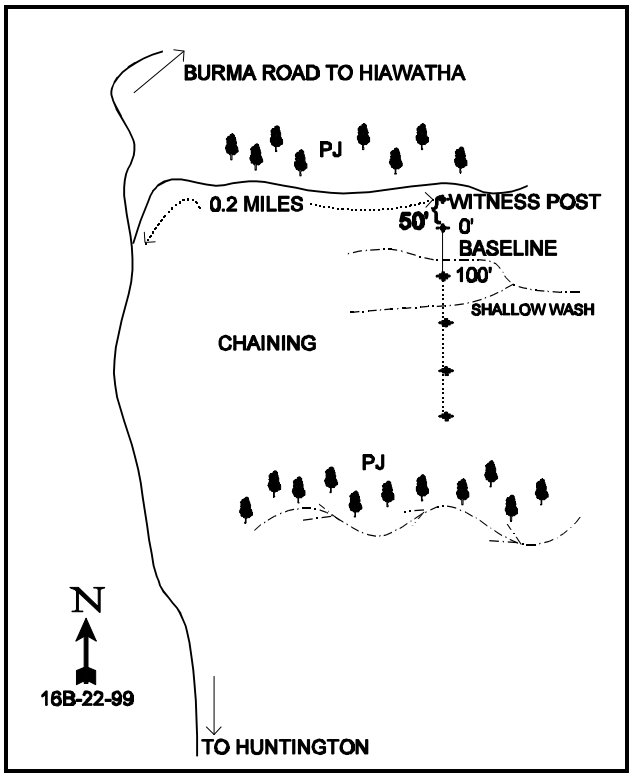
Compass bearing: frequency baseline 165°M.

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

To reach Poison Spring Bench, go up the Huntington Canyon Road to the Huntington research farm below the power plant. Across from the farm gate, turn right onto the Burma Road. Follow the Burma Road for 6 miles. Turn right onto a faint road that goes into the chaining below the road. Go down along the edge of the chaining for 0.2 miles to the study witness post. The baseline starts 50 feet south of the witness post, and runs south.





Map Name: Hiawatha Diagrammatic Sketch

Township 16S , Range 8E , Section 22 UTM 4362530.369 N, 498981.103 E

DISCUSSION

Trend Study No. 16B-22 (30-8)

The Poison Spring Bench study is located south of Cedar Creek and southwest of Poison Spring Bench. This trend study is on BLM land. It is part of the North Huntington cattle allotment which is grazed in the spring and fall. The marginal site was chained and seeded in the late 1960's. The area is now dominated by black sagebrush with a large number mostly released pinyon and juniper trees present. The area is considered critical deer winter range, but judging by deer sign there is only light to moderate use. It also receives a small amount of elk use. The 1999 pellet group transect data estimate 13 deer days use/acre (32 ddu/ha), and 8 elk days use/acre (20 edu/ha). Livestock use is light with an estimated 15 cow days use/acre (36 cdu/ha). Elevation at the site is about 6,800 feet. General aspect is to the east, with a gentle slope of 3-5%.

The soil is a gravelly, sandy clay loam with a slightly alkaline pH (7.6). There is a concentration of large rocks, boulders, and pavement on the surface, with a high number of rock in the upper profile. Although there are calcium carbonate (alkali) deposits on the rocks, no hardpan was evident. Soil depth is moderately shallow with an estimated effective rooting depth of just over 12 inches. Phosphorus (4.4 ppm) and potassium (57.6) are both below the level thought necessary for normal plant growth and development (10 ppm and 70 ppm respectively). Some soil erosion is apparent with pedestaling occurring around the base of black sagebrush and small gullies running through the site. However, erosion is not severe and is within acceptable limits for the site.

The site is dominated by browse as these species made up 88% of the total vegetation cover in both 1994 and 1999. Perfectly suited to the dry, rocky country, black sagebrush is the most common browse species. In 1994 and 1999, black sagebrush made up respectively 82% and 74% of the browse cover, and 73% and 65% of the total vegetation cover. The plants are vigorous and show signs of light to moderate hedging. In 1999, 26% of the population was moderately hedged, with only 3% being rated as poor in vigor. Population density was estimated at 15,333 plants/acre in 1988, 78% percent of these were young plants. Seedlings numbered 1,400 plants/acre. During the 1994 reading, 9,740 mostly mature plants/acre were estimated using a much larger sample size. The population was estimated at 11,200 plants/acre in 1999 with vast majority (88%) being mature plants. Recruitment and biotic potential remain low with 80 seedlings/acre and 420 young plants/acre being estimated in 1999. No seedlings were encountered in 1994. Percent decadence decreased in 1999, down to 9% from a high of 15% in 1994.

Other desirable browse species occur on the site in low densities. These include serviceberry, true mountain mahogany, ephedra, and four-wing saltbush. Although heavily browsed, the mature mahogany produces abundant seed. Average height of the bushy shrubs is three feet, but some plants have stems escaping up to six feet in height. Young pinyon and juniper trees that survived the chaining are increasing in size. Current point quarter estimates have pinyon at 103 trees/acre, and juniper at 43 trees/acre. Average stem diameter for pinyon in estimated at 2.1 inches and that of juniper at just over 3 inches.

Overall, herbaceous density and diversity is extremely low. Crested wheatgrass is the most abundant grass on the site. This species has remained at a stable frequency over all sampling years, but plants are small, and produce very little aboveground biomass compared to other chained and seeded sites. This is due to the poor site potential of the area that results from shallow, less fertile soils. All grasses combined provide only 3% cover in 1999, which equates to 10% of the total vegetative cover at the site. Forbs are even less abundant, with all species combined providing less than 1% cover in 1999.

1994 TREND ASSESSMENT

Even through shrubs dominate the site, bare ground cover is still quite low at 22%. It has increased since 1988, but only slightly. There is still abundant litter cover from chaining debris but it is declining. Currently

the soil trend is slightly down. Due to the gentle terrain and protective ground cover, erosion is not a serious problem. However, if the chaining litter is not replaced by herbaceous vegetation the soil trend will continue to decline. There is a variety of palatable browse on the site but only black sagebrush is abundant. Population density of this shrub has declined, but this is primarily because of the sampling design was greatly enlarged. The sampling design now gives significantly better estimates for browse populations that have discontinuous distributions. The biotic and reproductive potentials have declined. Percent decadency has increased but is still low at 15%. Most of these changes would be due to the increased sample size used in 1994. Trend for browse is stable to slightly down. A return to normal precipitation patterns will likely improve the trend. Herbaceous vegetation is seriously lacking on this site. Combined nested frequencies of grasses and forbs sum to only 266. Several forb species encountered in 1988 were not seen in 1994. Trend for herbaceous vegetation is slightly down.

TREND ASSESSMENT
soil - slightly down
browse - stable to slightly declining for black sagebrush
herbaceous understory - slightly down and seriously lacking

1999 TREND ASSESSMENT

Trend for soil is stable. Ground cover characteristics remain at similar levels to those in 1994. Erosion remains low due to the gentle slope and low precipitation at the site. Trend for browse is stable. The key species, black sagebrush, shows decreased decadency and slightly improved vigor. The population remains stable and use is light to moderate. True mountain mahogany shows improvements in biotic potential and recruitment although density remains relatively low. No plants were classified as decadent in 1999, down from 7% in 1994. Trend for the herbaceous understory is stable, but depleted. The only species that is somewhat abundant is crested wheatgrass, which is low compared to other chained and seeded sites. Sum of nested frequency for perennial grasses and forbs increased in 1999.

TREND ASSESSMENT
soil - stable
browse - stable
herbaceous understory - stable, but depleted

HERBACEOUS TRENDS --
Herd unit 16B, Study no: 22

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'88	'94	'99	'88	'94	'99	'94	'99
G	Agropyron cristatum	172	143	175	72	56	70	2.30	2.82
G	Elymus junceus	-	-	3	-	-	1	-	.15
G	Oryzopsis hymenoides	-	1	-	-	1	-	.00	-
G	Sitanion hystrix	6	11	2	4	4	1	.02	.03
G	Stipa comata	-	3	-	-	1	-	.00	-
Total for Annual Grasses		0	0	0	0	0	0	0	0
Total for Perennial Grasses		178	158	180	76	62	72	2.34	3.00
Total for Grasses		178	158	180	76	62	72	2.34	3.00
F	Arabis spp.	4	12	9	4	5	3	.05	.01

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'88	'94	'99	'88	'94	'99	‰94	‰99
F	Castilleja spp.	-	-	2	-	-	2	-	.03
F	Cirsium spp.	5	-	-	2	-	-	-	-
F	Cryptantha confertiflora	44	51	46	21	24	22	.56	.28
F	Cruciferae	$_{b}$8	$_{a}$-	$_{a}$-	4	-	-	-	-
F	Descurainia pinnata (a)	-	1	6	-	1	2	.00	.01
F	Eriogonum cernuum (a)	-	5	-	-	2	-	.01	-
F	Ipomopsis aggregata	$_{b}$9	$_{a}$1	$_{ab}$8	8	1	4	.00	.04
F	Lepidium spp. (a)	2	6	-	1	4	-	.04	-
F	Medicago sativa	3	-	3	2	-	1	-	.00
F	Penstemon caespitosus	18	19	29	11	13	15	.11	.09
F	Penstemon spp.	$_{c}$22	$_{a}$-	$_{b}$9	12	-	4	-	.04
F	Salsola iberica (a)	-	$_{b}$13	$_{a}$-	-	5	-	.07	-
F	Schoencrambe linifolia	-	-	2	-	-	1	-	.00
F	Senecio multilobatus	4	-	5	2	-	2	-	.01
Total for Annual Forbs		2	25	6	1	12	2	0.13	0.01
Total for Perennial Forbs		117	83	113	66	43	54	0.73	0.54
Total for Forbs		119	108	119	67	55	56	0.87	0.56

Values with different subscript letters are significantly different at ‰ = 0.10 (annuals excluded)

BROWSE TRENDS --
Herd unit 16B, Study no: 22

Type	Species	Strip Frequency '94	Strip Frequency '99	Average Cover % '94	Average Cover % '99
B	Amelanchier utahensis	0	0	-	-
B	Artemisia nova	97	98	19.75	19.35
B	Atriplex canescens	0	0	-	-
B	Atriplex confertifolia	0	0	-	-
B	Cercocarpus montanus	10	14	1.14	3.25
B	Chrysothamnus viscidiflorus	0	0	-	-
B	Cowania mexicana stansburiana	0	0	-	-
B	Ephedra viridis	4	7	.18	.00
B	Eriogonum microthecum	13	12	.06	.04
B	Gutierrezia sarothrae	0	4	-	-
B	Juniperus osteosperma	0	3	1.78	2.67
B	Opuntia spp.	5	5	.00	.03
B	Pinus edulis	0	4	1.03	.85
B	Purshia tridentata	1	0	.03	-
Total for Browse		130	147	24.00	26.20

CANOPY COVER --
Herd unit 16B, Study no: 22

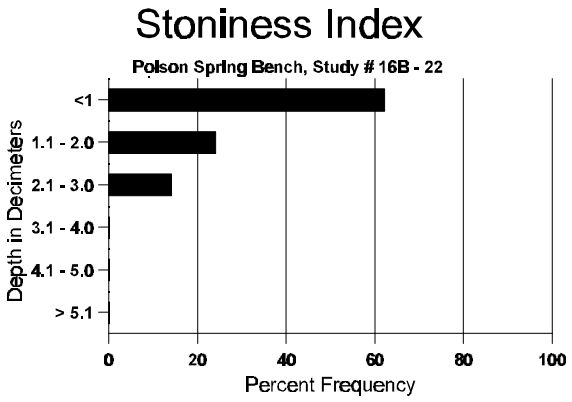
Species	Percent Cover '99
Juniperus osteosperma	1

BASIC COVER --
Herd unit 16B, Study no: 22

Cover Type	Nested Frequency '94	Nested Frequency '99	Average Cover % '88	Average Cover % '94	Average Cover % '99
Vegetation	251	258	6.00	26.07	29.60
Rock	261	193	12.25	9.63	9.84
Pavement	261	248	7.00	4.24	8.36
Litter	386	373	56.75	38.77	41.91
Cryptogams	8	69	0	.01	1.03
Bare Ground	296	281	18.00	22.43	23.83

SOIL ANALYSIS DATA --
Herd Unit 16B, Study # 22, Study Name: Poison Spring Bench

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
12.3	54.0 (13.6)	7.6	50.7	27.4	21.8	3.9	4.4	57.6	0.8



PELLET GROUP DATA --
Herd unit 16B, Study no: 22

Type	Quadrat Frequency '94	Quadrat Frequency '99	Pellet Transect Days Use/Acre (ha) '99
Rabbit	26	18	n/a
Elk	7	6	8 (20)
Deer	24	24	13 (32)
Cattle	7	5	15 (37)

BROWSE CHARACTERISTICS --
Herd unit 16B, Study no: 22

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Amelanchier utahensis																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	17	21	0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'88	00%	00%	00%
'94	00%	00%	00%
'99	00%	00%	00%

%Change

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	0		-
	'99	0		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Artemisia nova																		
S	88	17	-	-	-	-	-	4	-	-	20	-	1	-	1400			21
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	3	-	-	-	-	-	1	-	-	4	-	-	-	80			4
Y	88	171	5	-	-	-	-	4	-	-	179	-	1	-	12000			180
	94	44	-	-	-	-	-	-	-	-	44	-	-	-	880			44
	99	16	-	-	3	-	-	2	-	-	21	-	-	-	420			21
M	88	22	15	-	-	-	-	1	-	-	38	-	-	-	2533	9	19	38
	94	342	14	2	11	-	-	-	-	-	369	-	-	-	7380	10	27	369
	99	325	125	-	19	5	-	17	-	-	486	-	5	-	9820	9	20	491
D	88	11	1	-	-	-	-	-	-	-	11	-	1	-	800			12
	94	36	31	-	7	-	-	-	-	-	51	-	-	23	1480			74
	99	27	18	-	3	-	-	-	-	-	34	-	-	11	960			48
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	200			10
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	300			15

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	09%	00%	.86%	-36%
'94	09%	.41%	05%	+13%
'99	26%	00%	03%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	15333	Dec:	5%
	'94	9740		15%
	'99	11200		9%

Atriplex canescens

M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	40	37	0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	52	41	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	00%	00%	00%	
'99	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	0		-
	'99	0		-

Atriplex confertifolia

M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	20	25	0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	00%	00%	00%	
'99	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	0		-
	'99	0		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Cercocarpus montanus																		
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	1	-	-	2	-	-	-	-	-	3	-	-	-	60			3
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	-	-	-	2	-	-	-	-	-	2	-	-	-	40			2
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	9	3	1	1	-	-	-	-	-	14	-	-	-	280	33	38	14
	99	3	-	1	-	1	13	-	-	-	18	-	-	-	360	36	47	18
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	20%	07%	00%	+25%
'99	05%	70%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	0%
	'94	300		7%
	'99	400		0%

Chrysothamnus viscidiflorus

Y	88	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	00%	00%	00%	
'99	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	66	Dec:	-
	'94	0		-
	'99	0		-

Cowania mexicana stansburiana

S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	00%	00%	00%	
'99	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	0		-
	'99	0		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Ephedra viridis																		
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	4	-	-	1	-	-	-	-	-	5	-	-	-	100			5
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	1	1	-	-	-	-	-	-	-	2	-	-	-	40			2
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	2	4	2	-	-	-	-	-	-	6	-	-	2	160	25	32	8
	99	5	4	1	-	-	-	-	-	-	10	-	-	-	200	23	30	10
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	3	-	-	-	-	-	-	-	-	-	-	-	-	60			3
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	40			2

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	50%	25%	25%	+47%
'99	33%	07%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
'88	0	Dec:		0%
'94	160			0%
'99	300			20%

Eriogonum microthecum																		
S	88	5	-	-	-	-	-	-	-	-	5	-	-	-	333			5
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	6	-	-	-	-	-	-	-	-	6	-	-	-	120			6
Y	88	5	-	-	-	-	-	1	-	-	6	-	-	-	400			6
	94	5	-	-	-	-	-	-	-	-	5	-	-	-	100			5
	99	1	-	-	1	-	-	-	-	-	2	-	-	-	40			2
M	88	8	-	-	-	-	-	-	-	-	5	-	3	-	533	3	3	8
	94	22	-	-	4	-	-	-	-	-	26	-	-	-	520	3	6	26
	99	19	-	2	1	-	-	-	-	-	22	-	-	-	440	2	3	22
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	2	-	1	-	-	-	-	-	-	-	-	-	3	60			3
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	21%	-34%
'94	00%	00%	00%	-13%
'99	00%	11%	11%	

Total Plants/Acre (excluding Dead & Seedlings)				
'88	933	Dec:		0%
'94	620			0%
'99	540			11%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Gutierrezia sarothrae																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	8	8	0
	99	6	-	-	-	-	-	-	-	-	6	-	-	-	120	4	4	6

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	00%	00%	00%	
'99	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	0		-
	'99	120		-

Juniperus osteosperma																		
S	88	3	-	-	-	-	-	-	-	-	3	-	-	-	200			3
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	
'94	00%	00%	00%	
'99	00%	00%	00%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	0		-
	'99	60		-

Opuntia spp.																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	88	5	-	-	-	-	-	-	-	-	5	-	-	-	333	3	4	5
	94	4	-	-	-	-	-	-	-	-	4	-	-	-	80	4	9	4
	99	4	-	-	-	-	-	-	-	-	4	-	-	-	80	3	14	4
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	1	-	-	-	-	-	-	-	-	-	-	-	1	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'88	00%	00%	00%	-70%
'94	00%	00%	00%	+ 0%
'99	00%	00%	20%	

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	333	Dec:	0%
	'94	100		0%
	'99	100		20%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Pinus edulis																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'88	00%	00%	00%
'94	00%	00%	00%
'99	00%	00%	00%

%Change

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	0		-
	'99	80		-

Purshia tridentata																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20	8	8	1
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	0	6	11	0

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor
'88	00%	00%	00%
'94	00%	00%	00%
'99	00%	00%	00%

%Change

Total Plants/Acre (excluding Dead & Seedlings)				
	'88	0	Dec:	-
	'94	20		-
	'99	0		-